CALIFORNIA DIVISION OF MINES AND GEOLOGY

Supplement No. 1 to Fault Evaluation Report FER-42

January 30, 1978

1. El Modeno fault

7. Field observations:

The El Modeno fault, in the vicinity of Villa Park and Orange Park Acres, was examined briefly on 1/24/78 and observations are noted on the attached map. No evidence of recent faulting could be observed east of Villa Park, although recent housing developments and grading largely obscure evidence that may have existed north of Santiago Creek and the fault was no longer exposed in bedrock. Since the fault is reported to be a normal fault with the west side down, the flat terrace surface (late Pleistocene) just south of Santiago Creek should have been disrupted if post-terrace faulting has occurred. Although minor grading and agricultural activities have been undertaken, there is no evidence of a west-facing scarp in the vicinity of the trace shown by Morton, et al (1976) Miller, et al (1977), and Yerkes (1967).

South of Orange Park Acres, where the fault crosses Chapman Ave., the best evidence of faulting was within the Vaqueros-Sespe (Tvs) unit were it is exposed along the south side of Chapman Ave. The fault trace shown by Morton, et al. lies along the break in an east-facing slope. Although no recent units were exposed, the topography does not support recent normal faulting with a west-side down sense of displacement. Also, Miller, et al. and Yerkes do not indicate the terrace deposits to the north and south of this area to be faulted.

The area of the unnamed thrust fault shown by Morton, et al. was examined very briefly. No exposures were observed along North Mesa Road although a prominent break in slope is evident along part of the fault (see attached map). Extensive development presented further evaluation of this fault.

8. Conclusions: Due to the lack of fault scarps or other fault-related topographic features on the late Pleistocene terrace surfaces, the El Modeno fault does not appear to be active. In fact, the topographic expression of the hill south of Chapman Avenue contradicts the notion of recent normal faulting with the west block down. The surface location of the fault is not well-defined.

9. Recommendations:

Based on the evidence, the El Modeno fault appears to be inactive, may not be well-defined, and should not be zoned.

10. Investigator: E.W. HART EWH 11/30/78

O.K. - Dow 1-31-78